

**NEW HAMPSHIRE  
DEPARTMENT OF TRANSPORTATION**



**FISCAL YEAR 2007**  
**ANNUAL REPORT**



## LETTER FROM THE COMMISSIONER



December 1, 2007

It was with great pleasure that I was once again privileged to serve as Commissioner of the New Hampshire Department of Transportation for several months in 2007. More than a decade after I last held this position, I returned in March to an agency still very much dedicated towards meeting the transportation needs of New Hampshire's residents and visitors.

It's a time, however, marked by major challenges facing transportation agencies in New Hampshire and across the country. The demands on the highway system continue to increase along with the state's growth. The need to maintain and preserve the system, as well as improve it when possible, is greater than ever. But the growing disparity between available and anticipated funding and escalating costs is forcing the NHDOT to review and reevaluate priorities and make some difficult decisions as we look ahead. Transportation planners at both the state and local levels need to work closely with policy makers to ensure that transportation is effectively funded, and that those funds are spent as prudently and effectively as possible.

A top priority should be addressing the rehabilitation or replacement of "Red List" bridges across the state, particularly within the Turnpike System and along the Interstate 93 corridor between Salem and Manchester. Rebuilding that entire 19-mile corridor also remains a major priority and work is already underway to improve this vital economic lifeline for New Hampshire.

NHDOT employees once again distinguished themselves with an all-out response to major flooding in April 2007, the third 100-year flood event this state experienced in just 18 months. At the peak of the flooding, 400 sections of state and local roads were washed out or closed by high water. Nearly all of those sections were repaired and reopened within a few days.

Another incident that featured a prompt and effective response by NHDOT forces was the emergency repairs to the Sarah Long Bridge, a lift bridge carrying the NH Route 1 Bypass over the Piscataqua River between Portsmouth, New Hampshire and Kittery, Maine. The failure of an underwater DC cable in October 2006 initially appeared to be a five month job to repair. But working with the Maine DOT, the NHDOT oversaw the installation of a temporary cable that reduced the total bridge closure to just 45 days.

Managing traffic on New Hampshire's highway system took a major step forward in FY 2007 with the opening of the new Traffic Management Center (TMC) within the new State Emergency Operations Center in Concord. This central dispatch location will increase the efficiency of the highway system by reducing the length of incidents on the roadways, and by keeping motorists informed of what lies ahead.

High quality transportation can and must continue to play a vital role in New Hampshire's economic health and prosperity. I urge renewed emphasis and investment in this state's infrastructure to guarantee New Hampshire's preeminent position in the region well into the future.

Sincerely,

A handwritten signature in black ink, appearing to read "CO".



## A 21st Century Approach to Managing Traffic in New Hampshire

### New Dispatch Center Promises Benefits for Motorists and Highway Maintenance

New Hampshire now has a Traffic Management Center (TMC) to help better manage its transportation network. The new central location for receiving, processing and disseminating vital information about the transportation system is located within the new State Emergency Operations Center in Concord. The TMC will increase the efficiency of New Hampshire's transportation network by reducing the time length of incidents on the highways, and keeping motorists informed so they can make decisions based upon real-time roadway conditions.

The 6,000 square foot building is a high tech and secure nerve center for daily Transportation and Safety Agency operations, as well as any crisis that may occur.

The TMC video screen will be used to display everything from radar of an advancing storm system to images from 60 fixed cameras at strategic highway, bridge, and park and ride locations across the state. Plans call for an additional 24 cameras to be located along I-93 from Salem to Manchester as part of the upcoming rebuilding project on that congested corridor. Information will also be gathered from Road Weather Information Stations (RWIS), road sensors, field reports, and State Police, and conveyed by around-the-clock dispatching to motorists via 5-1-1 (both by telephone and the internet), highway advisory radio stations (HAR), electronic Dynamic Message Signs, and variable speed limit signs.

## Upgrading New Hampshire's Transportation System

During FY 2007 the NHDOT awarded 65 construction contracts to 35 prime contractors totaling approximately \$180 million. At the close of FY 2007, construction work was ongoing on approximately 85 contracts totaling \$315 million. A total of 55 contracts were completed and accepted for maintenance by NHDOT district forces.

Major roadway work completed in FY 2007 included the reconstruction of NH Route 16 in North Conway; (below photo) NH Routes 3A/11 in Franklin; US Route 3 in Tilton; NH Route 25 in Warren and Wentworth; NH Route 202 in Peterborough; US Route 3 in Hooksett; NH Route 9 in Stoddard; NH Route 16 in Gorham; NH Route 4A in Lebanon; NH Route 28 in Londonderry and Hudson; and NH Route 125 in Epping and Lee.

Bridge Construction work completed in FY 2007 included the replacement of the NH Route 121 bridge over the Little River and B&M Railroad in Plaistow and Atkinson; the NH Route 145 bridge over the Connecticut River in Clarksville and Pittsburg; the NH Route 25 bridge over the Baker River in Wentworth; and the NH Route 85 bridge over the B&M Railroad in Newfields. Also completed were the rehabilitation of the NH Route 28 bridge over the Smith River in Wolfeboro, the McIndoe Street steel truss bridge over the Connecticut River between Monroe, NH and Barnet, VT, and the deck replacement of the US Route 3 bridge over Lake Winnisquam in Belmont.

Other notable completed construction projects in FY 2007 included the reconstruction and widening of NH Route 120 in Lebanon that is part of the



*The top priority for improving New Hampshire's transportation system is rebuilding 19.8 miles of Interstate 93 between Salem and Manchester. Work also is underway on the new Airport Access Road that will connect the E.E. Everett Turnpike to Manchester-Boston Regional Airport.*

Dartmouth-Hitchcock Medical Center roadway improvements, and the replacement of the NH Route 10 bridge over Mink Brook in Hanover, the Department's first Design/Build contract.

Interstate work continues on the reconstruction of the I-293 Exit 5 interchange in Manchester and the reconstruction of I-93 in Salem, Windham, and Londonderry, including Park and Rides at Exits 2 and 5.

Roadway work also continues on the construction of the NH 111 Bypass in Windham and Salem, the Boston-Manchester Regional Airport Access Road and the reconstruction of US Route 3 in Belmont, Candia Road in Manchester, and NH 11 in Claremont and Newport.

Pavement rehabilitation work continues on 16 miles along NH Route 101 from Epping to Hampton, and eight miles along I-89 from Bow to Hopkinton.

Bridge work also continues on the replacement of the US Route 3 bridge over the Suncook River in Allenstown and Pembroke, the NH Route 175A bridge over the Pemigewasset River in Plymouth and Holderness, the St. Lawrence Railroad bridge over Green Street in Berlin, the NH Route 155 bridge over the B&M Railroad in Madbury, and two US Route 302 bridges over the Saco River and B&M Railroad in Bartlett.

## **Roundabouts Become Part of the State Transportation System**

With roundabouts growing in popularity across the country, the first two state-built roundabouts opened in early June 2007 in Meredith (US 3/NH 106) and Plymouth (US 3/NH 175A). Others are under construction in Keene (NH 101) and Rye (NH 1A). The NHDOT is working closely with communities and responding to their interests when considering whether to build a roundabout. The advantages of a roundabout include slower speeds (minor accidents), saving lives (76% fewer injuries), improving the traffic capacity 30-50%, reducing pollution and fuel use, saving money (signals, lights, electricity), allowing for U-Turns and a better level of service for a longer period of time.

## **Safe Routes to Schools Program**

Encouraging students to walk or ride bicycles to school is the goal of Safe Routes to School (SRTS). The program is designed for children in kindergarten through eighth grade, including students with disabilities, who live within approximately two miles of school.

The Bureau of Planning and Community Assistance works with local schools, municipalities, Regional Planning Commissions, and advocacy organizations to implement the federally funded national initiative. Applications from 35 schools in 16 cities and towns have been submitted seeking more than \$926,000 in reimbursement SRTS funding. The NHDOT expects to announce awards in FY 2008.



*The Final Design Section of the Highway Design Bureau advertised 31 projects with a total construction value of \$56.7 million.*

# IMPROVING MOBILITY



## New Commuter Bus Service Introduced from Nashua to Boston

Calling it the “first step in expanding the mass transit options in southern New Hampshire,” Governor John Lynch hailed a new commuter bus service that began trips between Nashua and Boston on February 13, 2007. The Bureau of Rail and Transit assisted with the start-up of the new service provided by Boston Express that utilizes six new commuter coaches making several daily roundtrip runs from the Everett Turnpike’s Exit 8 park and ride lot and the Exit 6 Welcome Center to Boston. In March, this new transit service carried more than 7,300 passengers.

## Funding Assistance to Communities:

The NHDOT has several Federal and State programs for funding improvements to local transportation systems, many of them municipally managed that are overseen by the Bureau of Planning and Community Assistance. Municipal management provides the municipalities the ability to lead and develop the scope and timeframe of the project subject to funding availability and program guidelines. Programs funded in FY 2007 include:

**Transportation Enhancement (TE):** The Bureau of Planning and Community Assistance’s TE/CMAQ Coordinator currently oversees more than 140 active TE projects.

**Congestion Mitigation and Air Quality (CMAQ):** The Bureau of Planning and Community Assistance’s TE/CMAQ Coordinator oversees more than 80 active CMAQ projects.

**State Aid Bridge:** Through FY 2007, the State Bridge Aid Program made \$6.8M in state funds available to municipalities for the design and construction (rehabilitation or replacement) of municipally owned bridges. The State funds cover 80% of project costs and require a 20% local match. The program currently has over 130 active projects programmed for construction through 2013 and requests for many new projects. A number of the projects recently funded and added to the program are as a direct result of the Floods of 2005, 2006 and 2007.

**State and Highway:** The State Aid Highway Program made \$1.7 million in State funds available to municipalities for the design and construction of improvements to Class II and III highways. The State funds cover 2/3 of the project costs and require a 1/3 match by the municipality. Nineteen projects were funded in FY 2007. The program currently has over two dozen active projects programmed through 2011 with many being designed and constructed in phases that are overseen by the Bureau in coordination with the Highway Maintenance Districts.

**Block Grant Aid:** Highway Block Grant Aid funds (RSA 235:23 & 235:25) come from a portion of the total road toll and motor vehicle registration fees collected by the State and given to municipalities for the purpose of constructing, reconstructing, or maintaining Class IV and V highways. Funds totaling \$29.4 million were distributed to 234 municipalities in FY 2007.



# MAINTENANCE AND PRESERVATION

## April 2007 Flooding Again Requires Major Response from NHDOT Maintenance Forces

The third 100-year flood event in just 18 months struck New Hampshire again in April of 2007. Highway Maintenance personnel set up hundreds of road closures and made over \$7 million in emergency and permanent repairs throughout the state. Virtually every NHDOT Bureau contributed to the response effort with personnel and equipment.

At the height of the flooding activity, 400 sections of state and local roads were washed out or closed by high water. Sections of two of the state's major east-west highways were shut down by a landslide crossing NH Route 101 near the Milford-Wilton town line and a major washout on US Route 4 in Nottingham.

Highway maintenance personnel, continue to make repairs and coordinate with the Federal Emergency Management Agency, the Federal Highway Agency, and municipalities for reimbursements for these past natural disasters. Mitigation work to prevent future problems will continue into future years.

## New Salt Spreaders Use “Pre-Wetting” Technique to Increase Anti-Icing Efficiency

New equipment introduced by Highway Maintenance Bureau District 5 forces on sections of I-93 and NH 101 promises to increase the efficiency of anti-icing winter maintenance while using less salt.

Four “Schmidt spreaders” were put in service during FY 2007 out of the Manchester (#527) and Derry (#528) patrol facilities, servicing NH 101 from the Auburn-Manchester Line to NH 114 in Bedford and I-93 from the Massachusetts state line to Exit 10 in Manchester.

The German manufactured spreaders (two at \$27,000 each for six-wheeled trucks and two at \$31,000 each for ten-wheeled trucks) have the ability to “pre-wet” the salt with brine, a nearly salt-saturated water solution, in the distribution system. Pre-wetting the salt is more effective because it clings to the pavement better and dissolves more quickly, thus decreasing the total amount of salt required and reducing the salt waste falling off the edge of the road.

## Expediting Emergency Repairs to the Sarah Long Bridge in Portsmouth

During a driving rain on October 28, 2006, bridge operators on the Sarah Mildred Long lift bridge that carries the Route 1 Bypass over the Piscataqua River in Portsmouth encountered a power outage that shut down lift operations. A specialized submarine cable carrying DC power from the New Hampshire side to the Maine side of the bridge had been seriously damaged. The prospect of waiting 4 to 5 months for a new cable to be made and installed was daunting for motorists in the Portsmouth-Kittery area and the businesses operating on both sides of the bridge. A positive turn of events began with the discovery of spare cables by the Maine DOT. This allowed for temporary repairs that reduced



*The NHDOT continued the deployment of the Automated Road Weather Information System (RWIS) statewide to better predict road and weather conditions.*

# MAINTENANCE AND PRESERVATION



the five-month closure to six weeks. Working with private contractors, the NHDOT's Construction Bureau coordinated the repair effort with assistance from several other Bureaus and personnel. District 6 forces constructed a turnaround at the New Hampshire end of the bridge and an access road between Market Street in Portsmouth and the southbound Bypass. The Sarah Long Bridge was reopened to traffic and normal operations on December 15 after final testing. It had been closed a total of 45 days. A permanent repair project is planned for 2008.

## Increased Emphasis on Pavement Preservation

With the goal of extending pavement life, the NHDOT is continuing to expand its Pavement Preservation Program by experimenting with preventative maintenance treatments such as chip seals and micro-surfacing. As part of this effort, the annual crack seal program was expanded in FY 2007 to include approximately 93 miles of I-93 as well as 50 miles of state-maintained highways. The Pavement Management Section (Materials and Research Bureau) advertised 10 resurfacing contracts totaling \$15 million.

## Craftsmanship Restores Bridges Built with Stone and Wood

Both were built in the 19th Century - one from stone, the other from New Hampshire grown timbers. One was damaged by flooding. The other was showing the effects of a lifetime that dated back to the Civil War.

NHDOT Bridge Maintenance crews were busy through the fall of 2006 making much-needed repairs and renovations to the bypassed double stone arch bridge off of NH Route 9 in Stoddard and the town-owned covered bridge in Lancaster on Mechanic Street over Israels River. (Left photo)

Both efforts to restore parts of New Hampshire history required the crews to use ingenuity as well as their skills and experience to complete the jobs.

## Investing in New Hampshire's Airports

The Bureau of Aeronautics works with aviation agencies at the federal, state and local levels to preserve and promote a system of airports necessary to guarantee the future of air transportation in New Hampshire. The Bureau continued implementation of the State Airport System Plan in FY 2007 and processed registrations for 110 airports and more than 1,200 aircraft. A total of \$785,841 was generated in revenues from aircraft registrations, commercial aviation operators, aircraft dealers and aircraft operating fees. Of that total, \$179,674 was distributed back to public-use airports for improvements and maintenance projects. The Aeronautics Bureau obtained approximately \$36 million in Federal Aviation Administration funds towards \$45 million in identified airport improvement projects. With funds generated from airport inspections, Aeronautics provided 168 runway cones to eight of New Hampshire's general aviation turf runways. Among the airport improvements completed was a \$7.9 million project at Laconia Airport to redevelop the airfield to meet FAA standards for aircraft operations (photo below).



*The Pavement Marking Section of the Traffic Bureau painted approximately 84 million feet along state maintained roadways, including centerline, edge lines and intersection markings.*

## **Maintaining and Preserving New Hampshire's Rail Corridors**

In addition to conducting 62 inspections of railroad track conditions and 72 inspections of grade crossing and signal systems, the Bureau of Rail and Transit continued its maintenance of state-owned railroad lines in FY 2007. This work included structural repairs to four railroad bridges, the reconstruction of eight public and private railroad grade crossings, tie replacement, brush clearing and track surfacing on many of the 200 miles of active state-owned rail line. Rail and Transit also began repairs to open the Groveton Branch for active freight rail service for the first time since 1999, with brush clearing, structural repairs and deck replacements on two bridges, tie replacement, and signal activation on the 23 miles of track between Whitefield and Groveton.

## **Still Addressing the Flooding of May 2006**

Follow-up work continued in FY 2007 on permanent road and bridge repairs associated with damages caused by flooding in May 2006. The Bureau of Bridge Maintenance installed two precast concrete box culverts to replace two that had been washed away and repaired numerous other bridges and culverts that had been damaged. Projects valued at \$1.8 million were addressed by the Highway Design Bureau, including using soil nails to stabilize a tall embankment slope along a steep portion of West Road in Canterbury. This technique was used to avoid closing the road and detouring traffic 12 miles. Another project in Hooksett involved jacking a 36-inch culvert about 30-feet under busy NH Route 3A to avoid a large excavation that may have required closing the road.

The Highway Design Bureau also designed and advertised two projects to reconstruct portions of NH Route 123 in Alstead that were damaged during the October 2005 flood event and had been temporarily repaired.

## **A Piece of Epsom's History travels US Route 4 to a New Home**

The final journey was less than a mile, but it took weeks of planning and a major team effort to move a 120-ton church along US Route 4 in Epsom from one location to another. The move on February 25 was necessary to save the 145-year old church and to make way for a new convenience store. NHDOT District 5 personnel assisted with the road closure and move, which was complicated by utility wires along the way, that had to be moved and hooked back up as soon as possible. The church is now located next to the town library and preserved for future generations.



*The Bureau of Highway Maintenance conducted winter maintenance activities on over 8,700 lane miles of state roadways, accounting for 1/3 of the Bureau's total yearly expenditures.*

# RESEARCH AND TECHNOLOGY



## Modern New Building Offers Twice The Space for Transportation Research

The NHDOT Materials & Research Bureau completed its move in July 2006 from its long-time location on Stickney Avenue to its brand new 30,000 square foot space at the Hazen Drive complex right next to the NHDOT headquarters in Concord.

The \$5.8 million project was built with extensive input from those who are working there. Among its more unique features is a very complex HVAC (heating, venting, and air conditioning) system that moves a much greater amount of air in a building with several working laboratories.

The first floor of the new Materials and Research Building includes a concrete and soils lab, a hot mix lab, a muster room for exploration crews and storage rooms. Housed on the second floor are office space, a chemistry lab, a geo-technical lab and employee break room.

## New Computer Technology Promises to “Transform the World of Winter Maintenance”

### New Hampshire is One of Ten States Involved in Road Weather Management Program

The Federal Highway Administration, in cooperation with ten states (including New Hampshire), is developing a “Maintenance Decision Support System” (MDSS), a software “tool that merges weather forecasting with roadway maintenance rules of

practice and generates treatment recommendations on a route by route basis.”

Using data from the National Weather Service and remote RWIS weather stations (New Hampshire currently has 12), the MDSS computer technology creates screen displays that can assist each patrol section.

Among the potential benefits of MDSS are reporting actual road surface conditions, assessing past and present weather conditions, assessing the present state of the roadway, recognizing resource constraints, identifying feasible maintenance treatments, predicting road surface behavior, and communicating recommendations to supervisors and workers.

In addition to the potential cost savings, those in the field can more efficiently use their resources. The NHDOT's District 5 Derry patrol facility (#528) is testing some of the technology applications to measure their effectiveness.

## Predicting Spring Thaws and Load Restrictions

New Hampshire has one of the highest freeze-thaw cycles in the country, with fluctuating temperatures above and below 32 degree providing major challenges to maintaining quality asphalt road surfaces. In the fall of 2006 the Materials and Research Bureau began research into developing a real-time spring load methodology for the NHDOT that will provide the ability to protect state and municipal highways from truck load damage while minimizing the economic impacts of load restrictions on the trucking industry. Data is being collected from five sections of state roads and two maintenance facility sites. Manual



The Bureau of Materials and Research is studying “warm mix asphalt” technology to test its effectiveness in helping to reduce energy costs and emissions. It may also allow for longer haul distances and cool weather paving.

methods are using frost tubes to identify when spring thaw has begun. A second method is utilizing a forecasting computer model to determine the starting date and duration of load restrictions. The completed model will be capable of showing the advancement of spring thaw across the state, based upon a ten day forecast.

## Statewide Planning and Research (SPR) Special Studies

A number of federally funded studies administered by the Bureau of Planning and Community Assistance are underway or were completed in FY 2007, including: the completion of Phase 1 of a truck study along NH 120 in Lebanon and Hanover; an access management plan for South Willow Street in Manchester; a land use inventory study of Hackett Hill Road in Manchester; US Route 3 through Allenstown, Pembroke and Hooksett; phase two of a study along NH 125 through Lee, Barrington and Rochester; a regional transportation safety plan for the Nashua Regional Planning Commission; and the underwriting of a regional comprehensive transportation plan and regional bicycle/pedestrian work.

## Preserving New Hampshire's Airports

New Hampshire's airports are under constant threat from developers and other non-aviation pressures. In addition to three commercial service airports, 21 general aviation airports offer economic benefits and services, including on-demand charters, support for emergency medical services, disaster relief efforts, flight training, aerial photography and recreation. The potential erosion and loss of services has prompted the NHDOT to assist small airport owners by providing tools and strategies to demonstrate the value of these assets to the citizens of New Hampshire. Research began in 2006 that will address these concerns and utilize the Hampton Airfield as a case study and pilot project.

## Rapid Bridge Construction Projects

Development continues on methods for accelerating construction and replacement of deficient bridges. The aim is to shorten construction time and reduce disruption for motorists. Although not suitable for all bridge projects, these techniques have yielded considerable time savings.

## New System in Place for Identifying Archaeological Locations

A new database application was completed in October 2006 that will greatly assist investigations into properties affected by possible construction. CREEP (Cultural Resources Eligibility Evaluation Program) was created to track the progress of cultural resources investigations on a project. Information made available through this program may enable transportation engineers to avoid archaeologically sensitive areas when designing projects.



*Working with the Department of Environmental Services, the NHDOT began monitoring surface water quality along the I-93 corridor with the goal of reducing salt use and impacts.*

# ENVIRONMENTAL STEWARDSHIP



## Cooperative Effort Preserves “America’s Oldest Family Farm”

“America’s oldest family farm” will remain as open space forever, thanks to a joint effort that involved the NHDOT, the City of Dover and the Strafford Rivers Conservancy.

An easement agreement signed January 29, 2007 marked the final phase of preserving the entire 120-acre property of the Tuttle Farm on Dover Point Road in Dover.

A combination of funding to secure the nearly \$2.79 million conservation easement was provided by the NHDOT (\$1.34 million), the City of Dover (\$1.29 million) and the Federal Farm and Ranchland Protection Program (\$155,000).

The NHDOT’s involvement and investment was to preserve land as mitigation to offset impacts to wetlands for the planned Newington-Dover Little Bay Bridge/Turnpike Improvement project and three other transportation projects in the area - the Dover park and Ride, the NH Route 155 bridge over the B&M Railroad in Madbury, and safety improvements at Exit 4 in Newington.

## I-93 Community Technical Assistance Program (CTAP)

The NHDOT is committed to a five year comprehensive Community Technical Assistance Program (CTAP) to support a region of 26 towns and cities that are in the area influenced by the reconstruction of Interstate 93.

As part of this comprehensive growth management initiative, the NHDOT is interested in engaging the public and a wide range of stakeholders, including local governments, the non-governmental sector, and state and regional governmental agencies



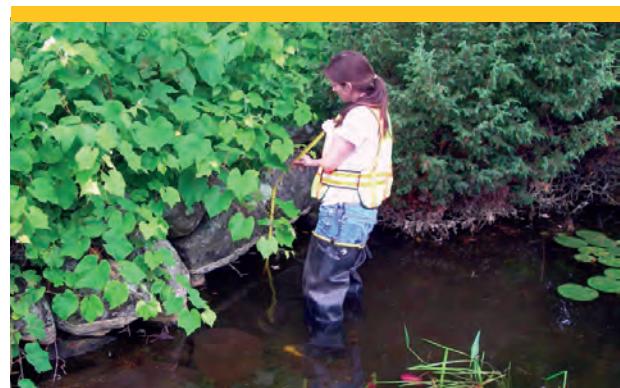
## Turnpikes Bureau Receives “Excellence In Energy Efficiency” Award

Retrofitting ten toll plazas with more efficient HVAC (heating ventilation & air conditioning) systems earned the Turnpikes Bureau a “Excellence in Energy Efficiency Award” from the State of New Hampshire for “achieving 35% reduction in energy use at Turnpikes Toll Facilities” between July 2005 and June 2006.

At an awards presentation on March 9, 2007, Bureau Administrator Harvey Goodwin said the “state-of-the-art HVAC systems have produced high energy savings and a positive and healthier air flow for our toll attendants.”

## Documenting Stone Culverts Across New Hampshire

In response to damages to numerous culverts of historical significance during major flooding events, the Bureau of Environment initiated a statewide stone culvert survey. These stone culverts are links in the drainage systems along the state’s highway systems and are viewed as significant assets to the State of New Hampshire. Many of these stone culverts are eligible for the National Register of Historic Places. The goal of the fieldwork was not just to survey



*The Bureau of Environment prepared and/or reviewed 129 environmental documents to meet state and federal environmental laws and regulations, and processed and recorded 215 permit applications/amendments and/or notifications.*

pristine examples of stone culverts, but also to establish an understanding of how these stone structures fair under flood conditions and to begin to establish an understanding of the construction and change in these structures over time. This study is ongoing and when additional research is collected and analyzed it will be shared with local road agents and other interested groups.

## **Pilot Program Seeks to Control Japanese Knotweed**

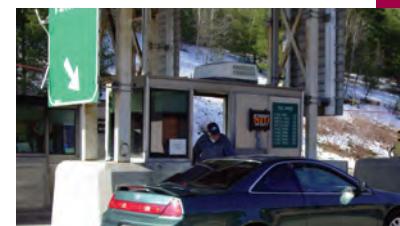
Beginning in August 2006, the NHDOT began conducting a pilot control project for Japanese knotweed, a non-native plant that is on the State's "Prohibited Invasive Species" list. This invasive plant, which looks like bamboo and can grow up to 10 feet tall, can also affect the safety and maintenance along New Hampshire's roadways, as well as threaten wetland areas.

Working in the Town of Jefferson, in cooperation with the Jefferson Conservation Commission, the New Hampshire Department of Agriculture, the USDA Forest Service and the US Fish and Wildlife Service, the NHDOT project consisted of treating 12 patches of knotweed located along a three-mile section of NH Route 115. This project will help the NHDOT gain an understanding of what it will take to implement control of Japanese Knotweed on a larger scale.

In addition to this effort, the Bureau of Environment developed a draft manual on Best Management Practices for Roadside Invasive Plants to reduce the likelihood of introducing or spreading invasive species during routine activities.

## **Upgrading Fuel Facilities with State-of-the Art Systems**

As part of a commitment to environmental stewardship, six NHDOT vehicle fuel dispensing facilities are undergoing complete fuel system replacements. These improvements will help protect the environment and provide the users of the facilities an additional level of safety. Single-walled steel diesel and gasoline underground storage tanks (USTs) are being replaced with double-walled fiberglass USTs and double-walled piping, along with redundant leak monitoring and control systems and alarms. The latest fuel dispensing equipment technology is being installed to meet, and in some cases exceed, current industry and regulatory standards. Exceeding current guidelines is an environmental "best practice" that also promises to extend the life expectancy of the new USTs. This fuel system replacement work is occurring at facilities in North Haverhill, Wentworth, Hooksett, Rindge, Sunapee and Enfield. Current plans are to replace or upgrade six to eight facilities per year.



*Governor John Lynch helped officially open a new NHDOT biodiesel fueling facility in Durham in August of 2006 by filling up a state vehicle.*



## The Growing Challenges of Employee Recruitment, Training and Retention

NHDOT employment statistics compiled by the Bureau of Human Resources during FY 2007 suggest the need for planning about the impacts of an aging workforce, mass retirements and concerns about future staffing needs.

- 41% of all NHDOT workers are age 50+
- 105 employees (6% of the workforce) have 30+ years
- 61 employees are ages 55-59 with 30+ years experience and can retire any time
- 74% of management are age 50 or older
- 38% of all workers have 15+ years of service
- An estimated 69 Highway Maintainer II's will be leaving in the next five years

In anticipation of these challenges, the Bureau of Human Resources initiated several strategic initiatives in motion:

- (a) Review of the NHDOT's organizational structure to meet the challenges of human capital planning, current and future challenges facing the Department.
- (b) Developing a plan to accelerate the skill development of the existing workforce to be prepared for leadership roles in the Department through training and leadership skills. Training will be implemented in FY 2008.

(c) Developing and implementing enhanced interviewing skills in the workforce to ensure "hiring the right people to the right positions at the right time." Initial trainings began in June of 2007.

(d) Continuing internal communications related to the generation turnover expected in the Department over the next decade and preparing the workforce for the imminent generational diversity that will result by presenting sessions of "Generations in the Workplace" trainings. This concept is also being communicated in the leadership training that was developed in FY 07 for presentation in FY 08.

(e) Created the position of "Recruitment and Retention Specialist" in the Bureau of Human Resources to focus full-time efforts on workforce and human capital planning initiatives by supporting strategic programs to recruit, mentor and retain employees.

(f) Created the position of "Internal Equal Employment Opportunity Coordinator" to provide full-time efforts to expand our recruitment resources and prepare our workforce for diversity.

(g) Developing a strategic approach to evaluate the existing job classification structures to best meet the Department's recruitment and retention needs.

(h) Participation in the Commissioner's Blue Ribbon Committee to analyze the NHDOT's engineering workforce issues, and making recommendations to support the hiring and retention of the agency's engineering staff.

## Context Sensitive Solutions

Context Sensitive Solutions (CSS) is a collaborative approach for planning, designing, construction, and maintaining highways, which takes into account other transportation goals besides vehicular throughput and safety. These include historic preservation, environmental stewardship, aesthetics, and needs of community members. CSS requires a collaborative approach to decision-making from the beginning to the end of a

*In just one month during FY 2007, the Bureau of Traffic lost over 140 years of institutional knowledge through the retirement of four employees, each with over 30 years of experience, significantly impacting the sign, signal and pavement marking sections.*

highway project. In FY 2007, the NHDOT continued to host Context Sensitive Solutions (CSS) classes. A total of 117 participants completed the two-day program. To enhance the program's educational value, participants were accepted from Federal and State Agencies, regional planning commissions, cities and towns, and consulting firms as well as from the NHDOT.

## National Incident Management System Training

In response to September 11, 2001, the President of the United States authorized the Department of Homeland Security to create a National Incident Management System (NIMS) which would ensure inter-agency cooperation in the event of a disaster, whether Federal, State or local. One component of NIMS was the Incident Command System (ICS), which teaches agencies to adopt consistent procedures and management structures so that disaster response would be smooth and without duplication of effort. In FY 2007, the Bureau of Human Resources secured a contract with the New Hampshire Fire Standards and Training Division to schedule training sessions for 949 employees for NIMS/ICS certification.

## Labor Compliance

Internally, this unit provides oversight for the NHDOT to ensure non-discrimination in all employment practices and is responsible for conducting training on the state sexual harassment policy and other diversity-related topics. In 2007, this unit provided training at every new hire orientation and in 17 other regularly scheduled or custom training sessions for supervisors.

External Compliance responsibilities include oversight of the contracting industry to ensure non-discrimination in all phases of work contracted with federal funding. The Labor Compliance Office continues its effort to promote the Department's Disadvantaged Business Enterprise Program (DBEs). DBEs accounted for 13.7% of the total bidding activity in FY 2007, which was a slight decrease from the previous year. A preliminary year-end report of DBE awards and commitments for FY 2007 indicates that approximately 7% of all Federal project funds were awarded to DBEs.

## In Remembrance

Traffic Bureau employee Brent Jackson Jr., age 23, died in a drowning accident in Alstead, New Hampshire on July 18, 2006. While he was only a NHDOT employee for a few weeks, Brent was well liked by his co-workers on a pavement marking crew.



*The Human Resources Bureau coordinated 17,603 individual employee trainings in such areas as health and safety, environmental management and computer skills.*

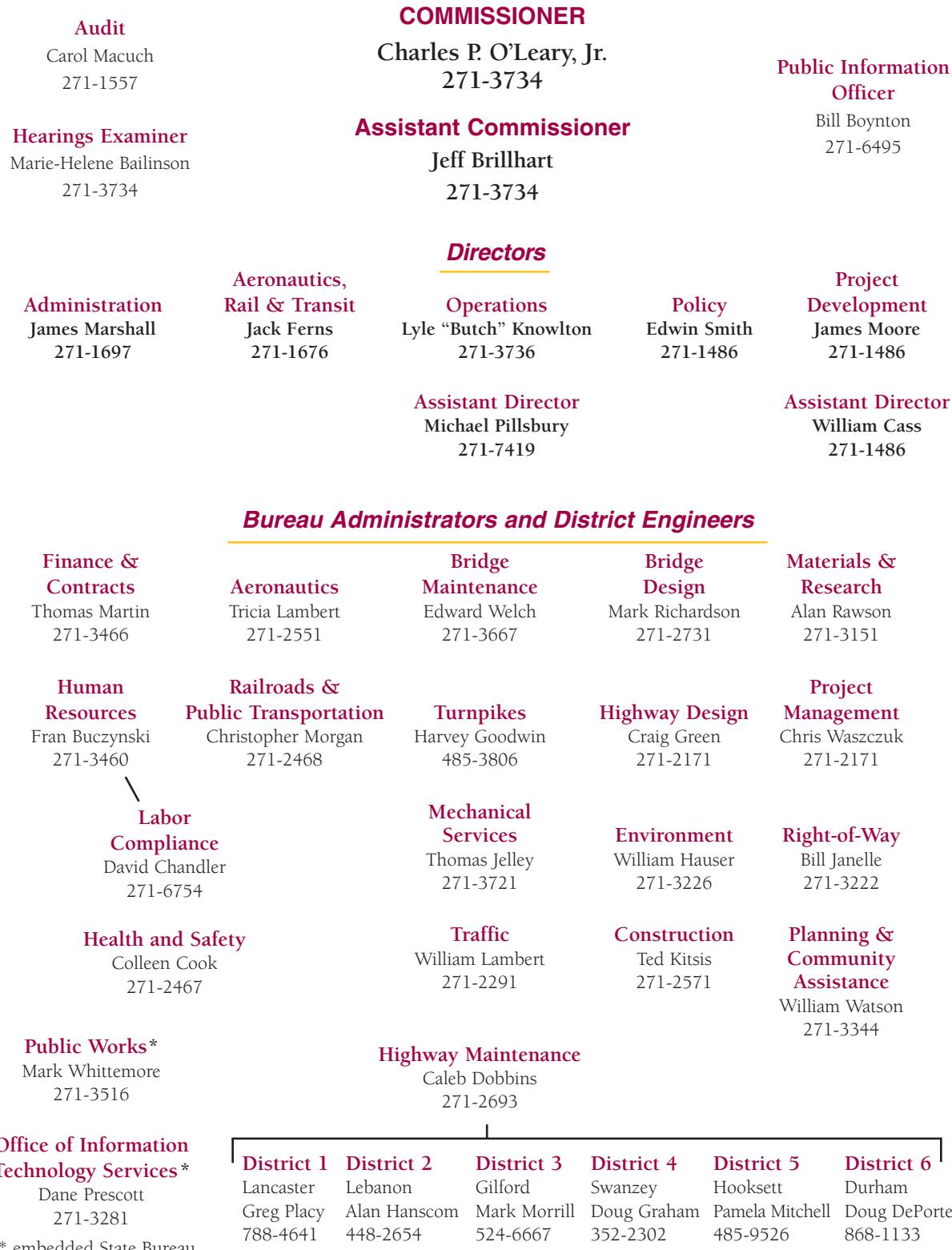
# LEGISLATION

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## Chapter Bill

0007	<b>HB118</b>	Reducing a prior appropriation to purchase flood damaged property and extending the commission to determine the appropriate use of public property.
0012	<b>HB166</b>	Relative to the definition of a bridge.
0032	<b>HB220</b>	Establishing a reporting requirement for departments that receive highway funds.
0056	<b>HB122</b>	Naming a bridge in the town of Henniker after Sergeant Russell M. Durgin.
0069	<b>HB153</b>	Relative to standards for bridge and highway construction.
0063	<b>SB86</b>	Naming a bridge in Plymouth.
0077	<b>HB217</b>	Establishing a committee to study the New Hampshire park and ride program.
0082	<b>HB311</b>	Establishing a committee to review liability issues for commuter rail operations.
0087	<b>HB418</b>	Relative to RV friendly highway signs.
0254	<b>HB710</b>	Establishing a commission to study issues related to the practice of leasing state-owned real estate on the shores of public waters.
0286	<b>HB731</b>	Relative to the use of vehicle information or location tracked by an electronic toll collection system.
0323	<b>HB471</b>	Relative to worker's compensation compliance in the public sector and continually appropriating a special fund.
0332	<b>HB796</b>	Relative to civil liability for damaging highway protective barriers.
0342	<b>SB160</b>	Adding members to the Skyhaven Airport commission and relative to the Skyhaven airport transfer plan.
0360	<b>SB75</b>	Relative to establishing a New Hampshire rail transit authority that will have responsibility for developing and providing commuter rail and related public rail transportation services in New Hampshire.

# NH DOT ORGANIZATIONAL CHART



# FINANCIAL MANAGEMENT-FY 2007 REVENUE

UNAUDITED - BUDGETARY	General 010	Highway 015	Turnpike 017	Capital 030	Total
<u>Unrestricted (Greater than \$1m):</u>					
Interest on Highway Surplus Funds		3,021,802			3,021,802
Sale of Service - Tpke Crossbill, Plans, Signs, etc		4,352,833			4,352,833
Administrative Over Head Cost		1,450,120			1,450,120
Federal Over Head Billing - Additive		6,458,536			6,458,536
Turnpike Cash Management Interest			1,733,955		1,733,955
Combined Debt Service Interest Account			1,154,327		1,154,327
Cash Toll Receipts - Blue Star			16,970,518		16,970,518
Cash Toll Receipts - Central			17,183,805		17,183,805
Cash Toll Receipts - Spaulding			5,654,414		5,654,414
Electronic Toll Collections - Blue Star			17,867,099		17,867,099
Electronic Toll Collections - Central			19,555,354		19,555,354
Electronic Toll Collections - Spaulding			5,417,734		5,417,734
Turnpike Miscellaneous			1,870,897		1,870,897
Transponder Sales Revenue			1,204,990		1,204,990
Other Revenues	670,075	608,125	1,448,213		2,726,413
<b>Total Unrestricted Revenue</b>	<b>670,075</b>	<b>15,891,416</b>	<b>90,061,306</b>	<b>-</b>	<b>106,622,797</b>
<u>Restricted (Greater than \$1m):</u>					
Federal Funds					
Public Transportation	5,865,727				5,865,727
Highway & Bridge Construction & Maintenance		154,754,444			154,754,444
FHWA Flood 2005		5,110,277			5,110,277
FAA Airport Improvement	1,232,838				30,371,602
Other Federal Funds		889,031			161,361
<b>Total Federal Funds</b>	<b>7,098,565</b>	<b>160,753,752</b>	<b>-</b>	<b>30,532,963</b>	<b>198,385,280</b>
Revolving Funds					
Garage Income - Equipment Usage		15,705,556			15,705,556
Highway Inventory		1,738,666			1,738,666
Motor Fuel		10,729,977			10,729,977
Other Revolving Funds	381,347	1,173,677			1,555,024
<b>Total Revolving Funds</b>	<b>381,347</b>	<b>29,347,876</b>	<b>-</b>	<b>-</b>	<b>29,729,223</b>
Private & Local Funds					
Interstate Bridge Authority		1,217,862			1,217,862
Construction - Local Match		10,177,483			10,177,483
Requested Maintenance & Repairs		1,117,086			1,117,086
Other Private & Local Funds	136,621	465,820			602,441
<b>Total Private &amp; Local Funds</b>	<b>136,621</b>	<b>12,978,252</b>	<b>-</b>	<b>-</b>	<b>13,114,873</b>
Agency Income					
Pavement Marking Program		2,235,863			2,235,863
Federal Emergency Relief Funds		1,545,751			1,545,751
Highway Betterment		22,002,991			22,002,991
Other Agency Income	703,752	1,831,436	5,390		2,540,578
<b>Total Agency Income</b>	<b>703,752</b>	<b>27,616,041</b>	<b>5,390</b>	<b>-</b>	<b>28,325,183</b>
Revenue Collected by the Department of Safety:					
Motor Vehicle Fees		129,272,000			129,272,000
Gasoline Road Toll		93,822,000			93,822,000
<b>Total All Revenue</b>	<b>8,990,360</b>	<b>469,681,337</b>	<b>90,066,696</b>	<b>30,532,963</b>	<b>599,271,357</b>

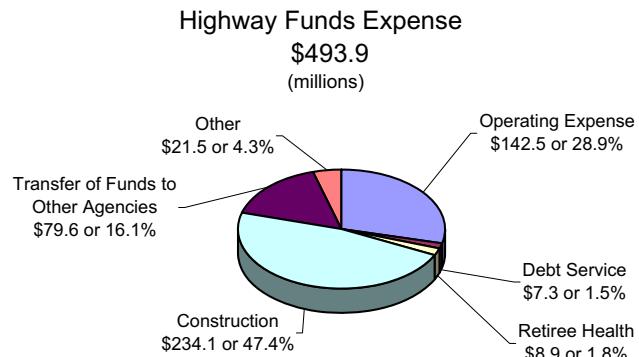
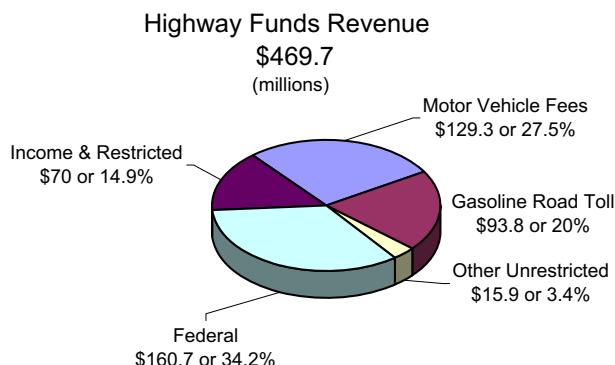
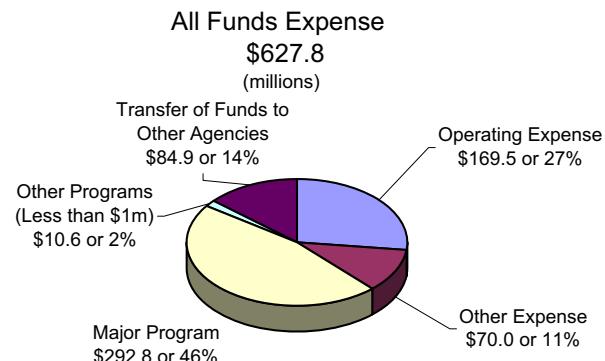
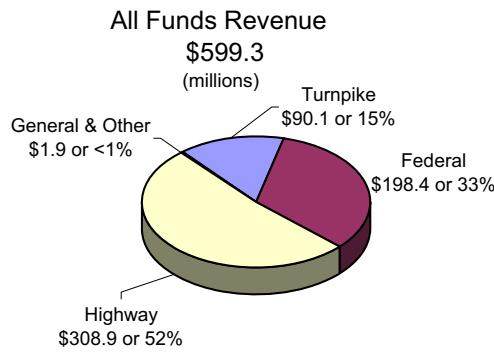
Source: SNH A270 & A271

# FINANCIAL MANAGEMENT - FY 2007 EXPENSE

UNAUDITED - BUDGETARY	General 010	Highway 015	Turnpike 017	Capital 030	Total
<u>Operating Expenses:</u>					
Salaries	703,987	52,483,287	6,582,407		59,769,681
Benefits	286,114	28,248,820	4,026,721		32,561,655
Overtime & Holiday	9,042	6,130,940	569,519		6,709,502
Temporary Personal Services		1,526,126	2,790,125		4,316,251
Sub-total personnel expense	999,142	88,389,173	13,968,773		103,357,088
Current Expense	22,063	21,866,180	2,214,326		24,102,570
Lease of State Owned Equipment	33,122	14,202,659			14,235,781
Rents & Leases - Non State	7,754	9,185,326	694,916		9,887,996
Equipment	3,997	4,481,931	1,088,203		5,574,132
Rent of State Owned Property			5,215,681		5,215,681
Heat, Electricity, & Water		1,982,132	1,308,872		3,291,004
Indirect Costs		811,832	210,458		1,022,290
In State Travel	808	799,449	16,055		816,312
Maintenance Other Than Buildings & Grounds		307,440	1,174,914		1,482,354
Audit Fund Set Aside	4,854	144,500			149,354
Contract Repairs		103,249	64,440		167,690
Organizational Dues	14,503	71,821	35,535		121,859
Maintenance Own Forces		71,470	6,684		78,154
Out of State Travel	3,396	39,872	5,175		48,443
Total Operating Expense	1,089,640	142,457,035	26,004,033	-	169,550,708
<u>Other Expense:</u>					
Debt Service		7,255,879	31,062,743		38,318,623
Retiree Benefits		8,947,863	911,673		9,859,536
Customer Service Center			3,006,851		3,006,851
Motor Fuel Inventory		10,976,700			10,976,700
Highway Inventory		1,465,977			1,465,977
Toll Collection Equipment			1,513,053		1,513,053
Worker's Compensation		1,113,936			1,113,936
General Fund Overhead		1,315,194			1,315,194
Requested Maintenance & Repair		1,006,579			1,006,579
Administrative Overhead to DOT HWY			1,397,136		1,397,136
Total Other Expense	-	32,082,128	37,891,457	-	69,973,586
<u>Major Programs (Greater than \$1m):</u>					
Consolidated Federal Aid		169,955,938			169,955,938
Apportionment A & B		28,456,617			28,456,617
Betterments Program		28,581,827			28,581,827
Municipal Bridge Aid Program		3,890,927			3,890,927
Renewal & Replacement			7,672,822		7,672,822
New Garage/Test Lab Facility				1,210,402	1,210,402
Flood Expenditures	2,079,072	3,187,125			5,266,197
FAA Projects				31,699,464	31,699,464
Non State Aid Airport Projects	1,217,312				1,217,312
Patrol & Salt Sheds				1,094,776	1,094,776
Statewide Salt Storage				1,109,710	1,109,710
Central NH Turnpike Improvement			2,615,557		2,615,557
Rural Transport Assistance	2,337,827			4,803,868	2,337,827
Spaulding / US 4 / NH 16 / Improvement					4,803,868
Grants to Sub Communities	2,929,766				2,929,766
Total Major Program	8,563,978	234,072,432	15,092,246	35,114,352	292,843,009
Total Other Programs (Less than \$1m)					
	1,882,532	5,633,234	631,416	2,465,928	10,613,110
<u>Transfer of Funds to Other Agencies:</u>					
Department of Safety		70,555,061	5,215,681		75,770,742
Office of Information Technology		4,098,972			4,098,972
Judicial Branch		1,709,886			1,709,886
Department of Justice		986,426			986,426
General Services		1,315,194			1,315,194
Highway Safety		400,401			400,401
Health & Human Services		367,215			367,215
Board, Tax, & Land Appeals		164,044			164,044
Department of Environmental Services		41,805			41,805
Transfer of Funds to Other Agencies	-	79,639,004	5,215,681	-	84,854,685
Total Expenditure, Program, & Transfer of Funds	11,536,149	493,883,834	84,834,833	37,580,281	627,835,097

Source: SNH Statement of Appropriations

# FY 2007 ACTIVITY CHARTS

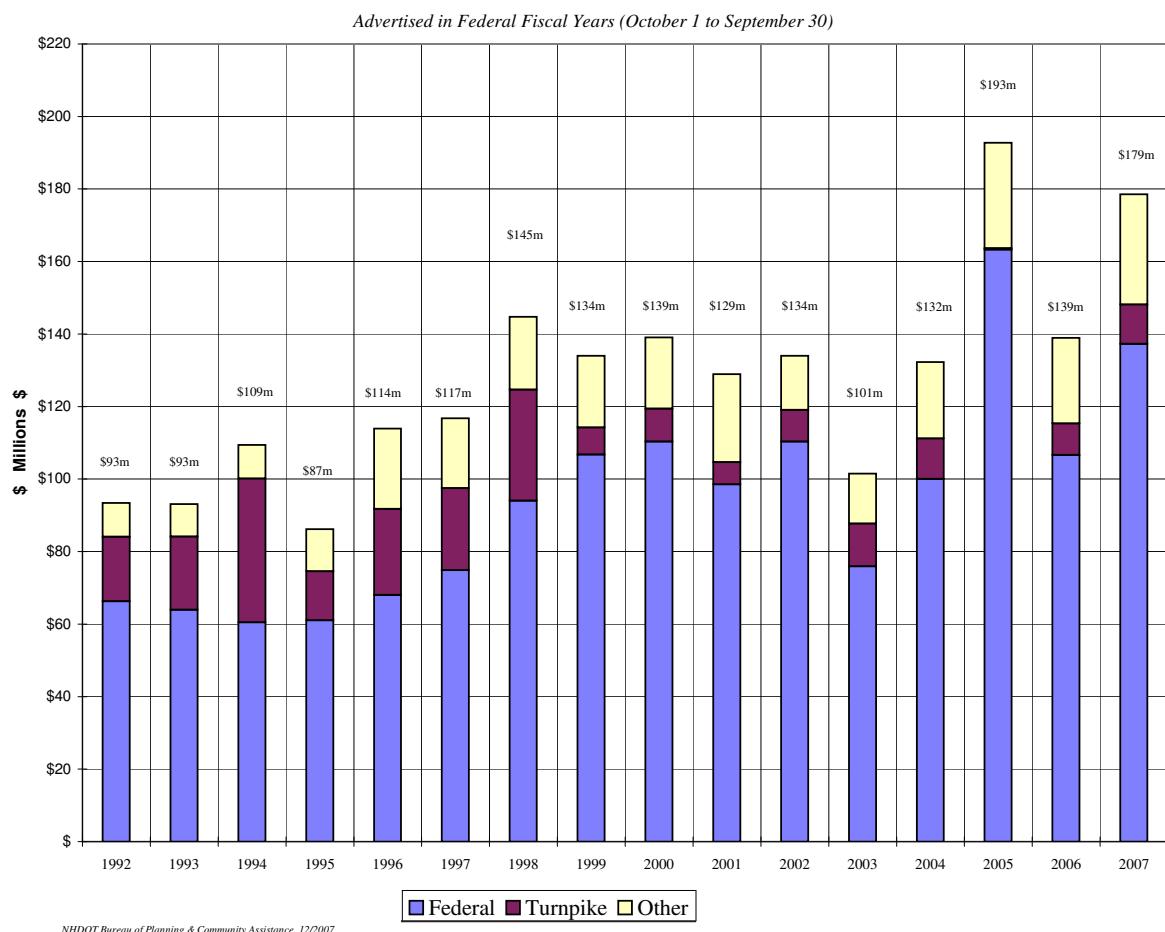


## Personnel Data

### Number of Employees

	6/30/2004	6/30/2005	6/30/2006	6/30/2007
Unclassified	7	7	7	7
Classified	1,868	1,868	1,842	1,841
Temporary	427	546	478	576
<b>TOTAL</b>	<b>2,302</b>	<b>2,421</b>	<b>2,327</b>	<b>2,424</b>

## Construction Contracting \$ For Projects



## Physical Plant and Property as of June 30, 2007.

Item	DOT (excluding Turnpikes)	Turnpikes	NHDOT Totals
Equipment	\$53,500,364	\$33,467,847	\$86,968,211
Buildings	\$48,274,000	\$4,828,312	\$53,102,312
Land	\$281,263,474	\$110,412,132	\$391,675,606
Highways, Rails & Bridges	\$2,744,772,303	\$558,935,911	\$3,303,708,214
<b>Totals</b>	<b>\$3,127,810,141</b>	<b>\$707,644,202</b>	<b>\$3,835,454,343</b>

Note: During FY 2002 the NHDOT converted from replacement costs to actual costs, per Government Accounting Standard Board (GASB#34) requirement.

## FY 2007 FACTS AND FIGURES

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- The Bridge Design Bureau conducted a total of 2,351 inspections on state and municipal bridges. The Bureau continues reviewing design plans for the 43 bridges being widened or replaced as part of the I-93 rebuilding project between Salem and Manchester.
- The Bureau of Turnpikes processed approximately 115.5 million vehicles through the Turnpike Toll System, resulting in an increase in revenue to \$82.3 million, up 5.8% over FY 2006. E-ZPass market share on the NH Turnpike System was 53.9%.
- The Permit Section of the Highway Maintenance Bureau issued over 30,000 oversize/overweight permits for travel within the State of New Hampshire. The Well Section of Highway Maintenance administered 14 new well installations.
- The Highway Design Bureau's Survey Section completed 114 survey requests. The Geodetic crew laid out approximately 1,000 borings, as well as the location of emergency mile markers on 400 miles of interstate, state and turnpike highway facilities.
- Rumble strips aimed at reducing run-off-the-road and head-on collisions were milled along the shoulders of 57 miles of Interstates and Turnpikes, and along the centerline of 7 miles of State roadways.
- The Roadside Design section of Highway Design was involved in preparing landscaping plans on 14 highway projects with a landscaping value of \$627,800.
- The Bureau of Right-of-Way completed 371 property acquisitions, 33 relocations, and 278 appraisals. The Bureau sold surplus state land parcels totaling \$2.78 million.
- Highway Maintenance District Offices reviewed over 1,000 driveway permits statewide, ranging from single-family homes to access to major planned commercial developments.
- The Geotechnical Section (Materials & Research Bureau) drilled 13,383 feet of soil and 2,682 bedrock in support of project design.
- The Design Services Section (Highway Design Bureau) coordinated utility relocation on 94 projects, and utility coordination assistance on 35 projects under construction.
- The Highway Design Bureau designed park and ride facilities at Exit 2 (Salem) and Exit 5 (Londonderry) of I-93, and in Dover near Exit 9 of the Spaulding Turnpike.
- The Bureau of Rail & Transit purchased 22 buses and vans to support public transit or specialized transportation.
- The Bureau of Mechanical Services purchased 24 truck chassis (20 6-wheeled and 4 10-wheeled) to be built and outfitted for winter maintenance operations.
- The Bureau of Mechanical Services' Fuel Distribution Section supplied 900+ accounts with over 5,000,000 gallons of fuel, an increase of approximately 120,000 gallons over the previous year. The upgrading of fuel distribution sites is planned or underway at patrol facilities in Wentworth, North Haverhill, Hooksett, Rindge, Enfield and Sunapee.
- Highway Maintenance Bureau personnel constructed salt storage facilities in Enfield, Haverhill, Dover, Ashland and Thornton.
- The Sponsor-A-Highway Program resulted in the voluntary collection of 19,012 bags of litter.





**John H. Lynch, Governor**

**Executive Councilors:**

Raymond S. Burton - District 1

John D. Shea - District 2

Beverly A. Hollingworth - District 3

Raymond J. Wieczorek - District 4

Debora Pignatelli - District 5

**Charles P. O'Leary, Jr., Commissioner**

New Hampshire Department of Transportation

7 Hazen Drive

Concord, New Hampshire 03302-0483

[www.nh.gov/dot/](http://www.nh.gov/dot/)

*Cover Photo - The rehabilitation of the historic 1930 McIndoe Falls Road Bridge over the Connecticut River in Monroe, NH was completed in 2007.*

*Inside Photo - The Interstate 95 Bridge over the Piscataqua River between Portsmouth, NH and Kittery, ME.*

*This report was produced by the New Hampshire Department of Transportation's Public Information Office pursuant to RSA 20:6 & 228:41. Six hundred copies of this report were printed in the Department's Print Shop. Design and Layout - L.J. Place. It is also available at [www.nh.gov/dot/](http://www.nh.gov/dot/).*